Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1   1.   (previously presented): A method for authenticating a hardcopy
2   document, comprising the steps of:
3   recording in a memory a scanned representation of the hardcopy document
4   at a selected resolution;
5   generating lossy compressed image data with the scanned representation
6   of the hardcopy document;
7   producing an authentication token with the lossy compressed image data;
8   the authentication token including one of encrypted image data and hashed
9   encrypted image data; the hashed encrypted image data including the lossy
10   compressed image data and an encrypted hash of the lossy compressed image
11   data; and
12   arranging in the memory the scanned representation of the hardcopy
13   document with a digital encoding of the authentication token for rendering at a
14   printer a signed and authenticated hardcopy document.

1   2.   (original): The method according to claim 1, further comprising the
2   step of verifying the signed hardcopy document by:
3   recording a scanned representation of the signed hardcopy document;
4   decoding the authentication token from the scanned representation of the
5   signed hardcopy document;
6   authenticating the lossy compressed image data using one of the encrypted
7   image data and the hashed encrypted image data; and
8   decompressing the authenticated lossy compressed image data for
9   comparison with the signed hardcopy document to determine whether the signed
10   hardcopy document is authentic.

1   3.   (original): The method according to claim 2, further comprising the
2 step of visually comparing the signed hardcopy document with the authenticated
3 lossy compressed image data.

1   4.   (original): The method according to claim 2, further comprising the
2 step of visually comparing the signed hardcopy document with a printed hardcopy
3 document of the authenticated lossy compressed image data.

1   5.   (original): The method according to claim 2, wherein said step of
2 producing an authentication token is performed with a private key and said step of
3 authenticating lossy compressed image data is performed with a public key.

1   6.   (original): The method according to claim 1, further comprising the
2 step of encoding the authentication token in a low intensity background pattern.

1   7.   (original): The method according to claim 1, further comprising the
2 step of encoding the authentication token in embedded data.

1   8.   (original): The method according to claim 7, wherein said
2 encoding step encodes the authentication token in a halftone pattern.

1   9.   (original): The method according to claim 8, wherein said
2 encoding step encodes the authentication token in a hyperbolic halftone pattern.

1   10.   (original): The method according to claim 8, wherein said
2 encoding step encodes the authentication token in a serpentine halftone pattern.

1   11.   (original): The method according to claim 7, wherein said
2 encoding step encodes the authentication token in data glyphs.

1   12.   (original): The method according to claim 1, wherein said step of
2 generating lossy compressed image data loses document formatting contained in
3 the scanned representation of the hardcopy document.

1   13.   (original): The method according to claim 12, wherein said step of

2   generating lossy compressed image data further comprises the step of

3   compressing the scanned representation of the hardcopy document by identifying

4   exemplars and locations of exemplars; each exemplar identified representing one

5   or more image segments from the scanned representation of the hardcopy

6   document.

1   14.   (original): The method according to claim 13, wherein said

2   compressing step records the exemplars at a resolution that is less than the

3   selected resolution of the scanned representation of the hardcopy document.

1   15.   (currently amended): The method according to claim 13, wherein

2   said compressing step records [[that]] the locations of exemplars at a resolution

3   that is less than the selected resolution of the scanned representation of the

4   hardcopy document.

1   16.   (currently amended): The method according to claim 1 claim 13,

2   wherein said compressing step compresses identified portions of the image

3   [[data]] segments at a plurality of compression ratios.

1   17.   (original): The method according to claim 16, further comprising

2   the step of segmenting text data from pictorial data before compressing the

3   scanned representation of the hardcopy document.

1   18.   (currently amended): A method for authenticating a hardcopy

2   document, comprising the steps of:

3   recording in a memory a scanned representation of the hardcopy document

4   at a selected resolution;

5   generating lossy compressed image data with the scanned representation

6   of the hardcopy document;

7   producing an authentication token with the lossy compressed image data;

8   the authentication token including one of encrypted image data and hashed

9   encrypted image data; the hashed encrypted image data including the lossy

10   compressed image data and an encrypted hash of the lossy compressed image

11   data; and

12   arranging in the memory a digital encoding of the authentication [[data]]

13   <u>token</u> for rendering at a printer a label containing the digital encoding of the

14   authentication [[data]] <u>token</u>.

1   19.   (original): The method according to claim 18, further comprising

2   the step of fixedly attaching the label to the hardcopy document to produce a

3   signed hardcopy document.

1   20.   (original): The method according to claim 19, further comprising

2   the step of verifying the signed hardcopy document by:

3   recording a scanned representation of the signed hardcopy document;

4   decoding the authentication token from the scanned representation of the

5   signed hardcopy document;

6   authenticating the lossy compressed image data using one of the encrypted

7   image data and the hashed encrypted image data; and

8   decompressing the authenticated lossy compressed image data for

9   comparison with the signed hardcopy document to determine whether the signed

10   hardcopy document is authentic.

1   21.   (previously presented): A system for authenticating a scanned

2   representation of a hardcopy document, comprising:

3   an image compression module for generating lossy compressed image data

4   with the scanned representation of the hardcopy document;

5   an authentication token generator for producing an authentication token

6   with the lossy compressed image data; the authentication token including one of

7   encrypted image data and hashed encrypted image data; the hashed encrypted

8   image data including the lossy compressed image data and an encrypted hash of

9   the lossy compressed image data; and

10   an encoding module for arranging the scanned representation of the

11   hardcopy document with a digital encoding of the authentication token for

12   rendering at a printer a signed and authenticated hardcopy document.

1   22.   (currently amended): The system according to Claim 21, further

2   comprising:

3   a memory for recording the signed hardcopy document;

4   a decoding module for decoding the signed hardcopy document to define

5   decoded signed image data;

6   an authentication module [[to]] for authenticating the ~~decided~~ decoded

7   signed image data using [[of]] the encrypted image data and the hashed encrypted

8   image data to define authenticated image data; and

9   a decompression module for decompressing the authenticated image data

10   to define decompressed image data;

11   means for comparing the signed hardcopy document with the

12   authenticated hardcopy document to determine whether the signed hardcopy

13   document is authentic.

1   23.   (previously presented): The system according to Claim 21, wherein

2   said image compression module compresses the scanned representation of the

3   hardcopy document by identifying exemplars and locations of exemplars; each

4   exemplar identified representing one or more image segments from the scanned

5   representation of the hardcopy document.